

the Office Action; the rejection of claims 10 through 12 under 35 U.S.C. § 103(a) as being unpatentable over Hsu in view of Artus, Isaak and Fatula, at paragraph 15 of the Office Action; and the rejection of claims 14 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Hsu in view of Artus and Erdman, at paragraph 16 of the Office Action.

Claims 1, 2, 5, 7, 13 and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over De Filippis in view of Arnoux, both of record. The Office Action states, at paragraph 4, that De Filippis does not disclose a plurality of ferromagnetic core segments ferromagnetically isolated from each other. Arnoux is relied upon for showing "a plurality of ferromagnetic core segments ferromagnetically isolated from each other for the purpose of reducing the starting torque." The conclusion is then reached that "[i]t would have been obvious . . . to make the plurality of ferromagnetic core segments ferromagnetically isolate [sic] from each other as taught by Arnoux et al. for the purpose discussed above."

Paragraph 1 of the Office Action asserts that "[a]pplicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection." However, the above identified rejection of claim 1, which appears in the present Office Action, is identical to a rejection of claim 1 rendered in the Office Action of May 21. The Amendment of July 17 traversed this rejection with detailed argument. The present Office Action has not addressed that argument in any respect. The rejection of claims 1, 2, 5, 7, 13 and 15 are traversed and the remarks with respect to claim 1 made in the July 17 are hereby reiterated.

Under well established legal precedents, it is incumbent upon the Examiner to factually support a conclusion of obviousness under 35 U.S.C. § 103. *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1451 (Fed. Cir. 1997); *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). As stated in *Graham v. John Deere Co.* 383 U.S. 1, 13, 148 USPQ 459, 465 (1966). Obviousness

under 35 U.S.C. §103 must be determined by considering (1) the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims in issue; and (3) resolving the level of ordinary skill in the pertinent art. The PTO is thus charged with the initial burden of identifying a source in the applied prior art for the realistic requisite motivation for combining applied references to arrive at the claimed invention with a reasonable expectation of successfully achieving a specific benefit. *Smith Industries Medical Systems v. Vital Signs*, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999).

The Examiner must provide a reason why one having ordinary skill in the art would realistically have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 57 USPQ2d 1161 (Fed. Cir. 2000); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 227 USPQ 657 (Fed. Cir. 1985); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983). A "clear and particular" factual finding must be made as to a specific understanding or specific technological principle which would have realistically impelled one having ordinary skill in the art to modify an applied reference to arrive at the claimed invention based upon facts -- not generalizations; *Ecolochem Inc. v. Southern California Edison, Co.*, 227 F.3d 361, 56 USPQ2d 1065 (Fed. Cir. 2000); *In re Kotzab*, 217 F.3d 1365, 55 USPQ 1313 (Fed. Cir. 2000); *In re Dembiczaik*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). It should be recognized that, even if the prior art *could* be modified so as to result in the combination defined by the claims, the modification would not have been obvious unless the prior art suggested the desirability of the modification. *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986). In the absence of such a prior art suggestion for modification of the references, the basis of the rejection is no more than inappropriate hindsight reconstruction using appellant's claims as a guide.

In re Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967). The requisite motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. §103 is not an abstract concept, but must stem from the applied prior art as a whole and have realistically impelled one having ordinary skill in the art, at the time the invention was made, to modify a reference in a specific manner to arrive at a specifically claimed invention with a reasonable expectation of achieving a specific benefit. *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989). It is submitted that the examiner has not discharged the burden of establishing obviousness.

The Office Action states that it would have been obvious to modify the De Filippis motor structure to include a plurality of ferromagnetic core segments ferromagnetically isolated from each other in order to reduce starting torque. Purportedly such modification would meet the requirements of claim 1. Exception is taken to this conclusion for the following reasons.

Claim 1 recites, *inter alia*, the following:

the stator comprising:

a plurality of ferromagnetic core segments ferromagnetically isolated from each other, each of the core segments having respective coils wound thereon to form stator windings.

The De Filippis disclosure is directed to "a permanent magnet brushless electric motor, particularly for direct drive of a member such as the cylinder of a washing machine, the motor comprising a rotor fixed for rotation with a shaft of the member to be driven and rotating with respect to a crown-like stator obtained by blanking a lamination stack provided with coil supporting teeth (column 1, line 67 - column 2, line 6). . . The construction of the motor has the aim of exploiting the iron of the lamination as much as possible (column 2, lines 51-53)."

Arnoux discloses a magnetic flywheel driven by a centrifugal clutch to generate electricity. The Arnoux device is not a motor. The objective of Arnoux, as stated at column 2, line 19-22, is "to

reduce the starting torque of a magnetic flywheel of the type described above for a hand-driven magneto megohmmeter with step variable voltage."

The Office Action provides no explanation of why a person of ordinary skill in the motor art would have wanted to diminish the starting torque capability of De Filippis. Indeed, the De Filippis disclosure is presented in the context of a washing machine motor drive. An artisan having considered the teachings of Arnoux would have found it inappropriate to implement the modification proposed in the Office Action at least because reduction of starting torque would introduce a disadvantage in a motor drive for a washing machine or, for that matter, any motor application contemplated by De Filippis.

Moreover, De Filippis does not disclose a plurality of ferromagnetic core segments, as the Office Action appears to suggest. De Filippis discloses a single unitary stator core segment characterized therein as a "stator crown." The modification proposed in the Office Action to divide the stator crown into separate ferromagnetically isolated sections would destroy, or would be in contradiction to, several of De Filippis' intended features. De Filippis intends to exploit the iron of the lamination as much as possible. The modification proposed in the Office Action would remove portions of the lamination to form separate isolated sections, seen by De Filippis as wasting lamination portions (column 1, lines 36-37). According to Arnoux such result would diminish starting torque in the motor, which would have been anathema to a motor designer. Arnoux, of course, is not directed to a motor, but to a magnetic flywheel.

In addition, it is submitted that modification of the De Filippis stator structure by dividing it into separate sections would have presented De Filippis' with further problems in implementing the disclosed intended feature of providing transformer portions within the stator core. De Filippis intends to use the single blanked lamination stack, with as little waste as possible, to fabricate the

transformer. It is submitted, therefore, that not only has the Office Action failed to establish the requisite prior art motivation for its proposed modification, but that the primary reference, De Filippis, in itself teaches away from such modification of its disclosed structure.

Claims 2, 5, 7, 13 and 15 are all dependent from claim 1 and thus indirectly contain all the requirements thereof. Claims 2, 5, 7, 13 and 15 are patentably distinguishable at least for the same reasons set forth above with respect to their parent claim. Claim 5 additionally distinguishes from De Filippis in its requirement for each segment having a pair of poles separated by a linking portion and developing opposite magnetic polarities at the air gap. Claim 7, dependent from claim 5, further distinguishes from De Filippis in requiring that the winding of each stator segment be formed on the yoke or linking portion.

Claims 3 and 4 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over De Filippis in view of Arnoux and Isaak, of record. These claims are indirectly dependent from claim 1. Isaak has been relied upon for its disclosure of a fuel cell positioned within a hollow cylindrical stator of a homopolar electric motor. The requirements of parent claim 1, discussed above, *i.e.*, a plurality of ferromagnetic core segments ferromagnetically isolated from each other, clearly would not have been suggested by Isaak whose motor has a single pole. Claims 3 and 4 thus are patentably distinguishable at least for the same reasons advanced above with respect to parent claim 1. Moreover, it is submitted that person of ordinary skill in the art, having considered the teachings of the three applied references would have found no suggestion to modify the De Filippis structure to include therein a fuel cell. In light of the stated objectives of De Filippis, it is submitted that the artisan would have found the Isaak provision of a fuel cell within the stator to be repugnant to the De Filippis disclosure as the sheer bulk of the cell would interfere with the iron lamination.

Claims 6, 8 and 9 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over De Felippis in view of Arnoux and Eakman, of record. These claims are indirectly dependent from claim 1. Eakman has been relied upon for disclosing a winding portion on each pole, wound in opposite directions to each other. Claims 6, 8 and 9 thus are patentably distinguishable at least for the same reasons advanced above with respect to parent claim 1. Eakman, moreover, is directed to a switched reluctance generator in which the windings on the poles are excitation coils and an output coil is wound on the yoke. It is submitted that an artisan, having considered the teachings of the three references, individually or in combination, would have had no reason to modify the De Filippis structure.

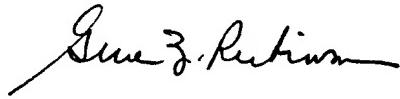
Claims 10 through 12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over De Felippis in view of Arnoux and Fatula, of record. These claims also are indirectly dependent from claim 1. Fatula has been relied upon for disclosing a plurality of replaceable batteries. Fatula discloses such elements within a rotary magnetic induction device that supplies power to a rotary element. There is no disclosure therein of motor structure such as recited in parent claim 1. Claims 10 through 12 thus are patentably distinguishable at least for the same reasons advanced above with respect to parent claim 1. Claims 10 through 12 additionally require the limitations of claim 3.

Claim 14 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over De Felippis in view of Arnoux and Erdman, of record. Claim 14 also is indirectly dependent from claim 1. Erdman has been relied upon for disclosing an application specific integrated circuit. There is no disclosure therein of motor structure such as recited in parent claim 1. Claim 14 thus is patentably distinguishable at least for the same reasons advanced above with respect to parent claim 1. Claim 14 additionally includes the limitations of claims 2 and 13.

Accordingly, it is urged that claims 1 through 15 are allowable. Allowance of the application is respectfully solicited. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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